STN SEARCH

```
FILE 'HOME' ENTERED AT 13:23:07 ON 25 NOV 2002

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'REGISTRY' ENTERED AT 13:23:14 ON 25 NOV 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   24 NOV 2002  HIGHEST RN 474353-54-3
DICTIONARY FILE UPDATES:  24 NOV 2002  HIGHEST RN 474353-54-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end


=> screen 970 AND 2067

L1     SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\09901933-3.str

L2     STRUCTURE UPLOADED

=> que L2 AND L1

L3    QUE L2 AND L1

=> d
L3 HAS NO ANSWERS
L1                SCR 970 AND 2067
L2                STR
```
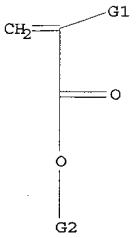
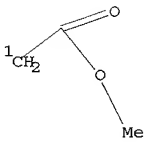
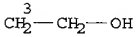







G1 H,Me,[@1]

G2 [@2],[@3]

Structure attributes must be viewed using STN Express query preparation.
L3 QUE ABB=ON PLU=ON L2 AND L1

=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 970 AND 2067

L4 SCREEN CREATED

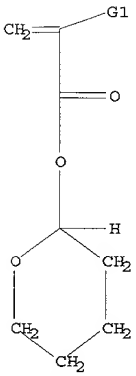
=>
Uploading C:\Program Files\Stnexp\Queries\09901933-2.str

L5 STRUCTURE UPLOADED

=> que L5 AND L4

L6 QUE L5 AND L4

=> d
L6 HAS NO ANSWERS
L4 SCR 970 AND 2067
L5 STR



G1 H,Me

Structure attributes must be viewed using STN Express query preparation.
L6 QUE ABB=ON PLU=ON L5 AND L4

=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 970 AND 1006 AND 2067

L7 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\09901933-1.str

L8 STRUCTURE UPLOADED

=> que L8 AND L7

L9 QUE L8 AND L7

=> d
L9 HAS NO ANSWERS
L7 SCR 970 AND 1006 AND 2067
L8 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L9 QUE ABB=ON PLU=ON L8 AND L7

=> d his

(FILE 'HOME' ENTERED AT 13:23:07 ON 25 NOV 2002)

FILE 'REGISTRY' ENTERED AT 13:23:14 ON 25 NOV 2002
L1 SCREEN 970 AND 2067
L2 STRUCTURE UPLOADED

```
L3              QUE L2 AND L1
L4              SCREEN 970 AND 2067
L5              STRUCTURE UPLOADED
L6              QUE L5 AND L4
L7              SCREEN 970 AND 1006 AND 2067
L8              STRUCTURE UPLOADED
L9              QUE L8 AND L7

=> s l3
SAMPLE SEARCH INITIATED 13:24:23 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -  11775 TO ITERATE

  8.5% PROCESSED    1000 ITERATIONS                                50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       229007 TO   241993
PROJECTED ANSWERS:           93082 TO   101440

L10          50 SEA SSS SAM L2 AND L1

=> s l6
SAMPLE SEARCH INITIATED 13:24:45 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     30 TO ITERATE

100.0% PROCESSED      30 ITERATIONS                                 13 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:          272 TO      928
PROJECTED ANSWERS:              44 TO      476

L11          13 SEA SSS SAM L5 AND L4

=> s l9
SAMPLE SEARCH INITIATED 13:24:49 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    156 TO ITERATE

100.0% PROCESSED     156 ITERATIONS                                 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:         2371 TO     3869
PROJECTED ANSWERS:             849 TO     1831

L12          50 SEA SSS SAM L8 AND L7

=> s l10 and l11 and l12
L13          0 L10 AND L11 AND L12

=> FIL USPATFULL CAPLUS HCAPLUS
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                               1.14       1.35

FILE 'USPATFULL' ENTERED AT 13:25:07 ON 25 NOV 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPLUS' ENTERED AT 13:25:07 ON 25 NOV 2002
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FILE 'HCAPLUS' ENTERED AT 13:25:07 ON 25 NOV 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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=> s l10
L14         101 L10

=> s l11
L15          43 L11

=> s l12
L16         137 L12

=> s l14 and l15 and l16
L17           0 L14 AND L15 AND L16

=> s l14 or l15 or l16
L18         279 L14 OR L15 OR L16

=> s l18 and (resist or photoresist)
L19          44 L18 AND (RESIST OR PHOTORESIST)

=> duplicate
ENTER REMOVE, IDENTIFY, ONLY, OR (?):remove
ENTER L# LIST OR (END):l19
DUPLICATE PREFERENCE IS 'USPATFULL, CAPLUS, HCAPLUS'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L19
L20           25 DUPLICATE REMOVE L19 (19 DUPLICATES REMOVED)

=>  d l20 1-25 ibib hitstr abs

L20  ANSWER 1 OF 25  USPATFULL                              DUPLICATE 1
ACCESSION NUMBER:        2002:217000  USPATFULL
TITLE:                   Polymeric compound and resin composition for
                         photoresist
INVENTOR(S):             Ushirogouchi, Toru, Yokohama, JAPAN
                         Okino, Takeshi, Tokyo, JAPAN
                         Asakawa, Koji, Kawasaki, JAPAN
                         Shida, Naomi, Tokyo, JAPAN
                         Funaki, Yoshinori, Himeji, JAPAN
                         Tsutsumi, Kiyoharu, Himeji, JAPAN
                         Takaragi, Akira, Himeji, JAPAN
                         Inoue, Keizo, Himeji, JAPAN
PATENT ASSIGNEE(S):      Kabushiki Kaisha Toshiba, Kanagawa-ken, JAPAN (non-U.S.
                         corporation)
                         Daicel Chemical Industries, LTD, Osaka, JAPAN (non-U.S.
                         corporation)

                              NUMBER        KIND    DATE
                              ------------- ------ --------
PATENT INFORMATION:      US 6440636          B1   20020827
APPLICATION INFO.:       US 2000-703677           20001102  (9)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            GRANTED
PRIMARY EXAMINER:        Ashton, Rosemary
LEGAL REPRESENTATIVE:    Birch Stewart Kolasch & Birch LLP
NUMBER OF CLAIMS:        7
EXEMPLARY CLAIM:         1
```
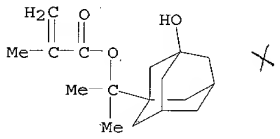

NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 1694
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **338790-67-3P**
(polymeric compd. and resin compn. for photoresist)
RN 338790-67-3 USPATFULL
CN 2-Propenoic acid, 2-methyl-, 1-(3-hydroxytricyclo[3.3.1.13,7]dec-1-yl)-1-methylethyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

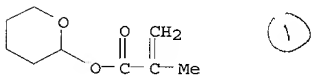
CM 1

CRN 324761-49-1
CMF C17 H26 O3



CM 2

CRN 52858-59-0
CMF C9 H14 O3



AB A polymeric compound includes at least one monomeric unit of the following formula (I): ##STR1##

wherein R.sup.1 is a hydrogen atom or a methyl group; and each of R.sup.2 and R.sup.3 is independently a hydrogen atom or a hydroxyl group. The polymeric compound may include the monomeric unit and at least one monomeric unit selected from monomeric units represented by the following formulae (IIa) and (IIb): ##STR2##

wherein R.sup.1 is a hydrogen atom or a methyl group; each of R.sup.4 and R.sup.5 is, for example, a hydrogen atom, a hydroxyl group, an oxo group, or a carboxyl group, wherein R.sup.4 and R.sup.5 are not concurrently hydrogen atoms; and each of R.sup.7 and R.sup.8 is independently a hydrogen atom, a hydroxyl group, or an oxo group. The polymeric compound have a high etching resistance in addition to satisfactory transparency, alkali-solubility, and adhesion.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 2 OF 25 USPATFULL
ACCESSION NUMBER: 2002:172438 USPATFULL
TITLE: (Meth)acrylate ester-based resin composition
INVENTOR(S): Nakamura, Kazuhiko, Kawanishi-shi, JAPAN
Yokota, Yoshiyuki, Osaka, JAPAN
Takahashi, Kunio, Osaka, JAPAN
Yoshida, Masaya, Himeji-shi, JAPAN

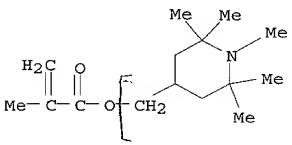
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002091197	A1	20020711
APPLICATION INFO.:	US 2001-938652	A1	20010827 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-345966	20001113

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P., 1300 19TH STREET, N.W., SUITE 600, WASHINGTON,, DC, 20036
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
LINE COUNT: 2693
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **425409-59-2P**
((meth)acrylate ester-based resin compn.)
RN 425409-59-2 USPATFULL
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with (2,4-dimethylcyclohexyl)methyl 2-methyl-2-propenoate, (4-methylcyclohexyl)methyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate, (1,2,2,6,6-pentamethyl-4-piperidinyl)methyl 2-methyl-2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

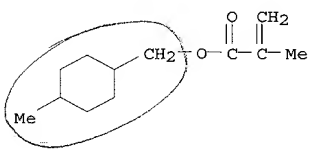
CM 1

CRN 425409-27-4
CMF C15 H27 N O2



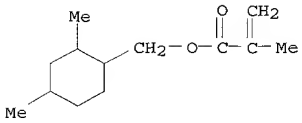
CM 2

CRN 364753-38-8
CMF C12 H20 O2



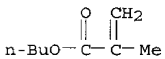
CM 3

CRN 218444-97-4
CMF C13 H22 O2



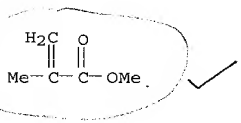
CM 4

CRN 97-88-1
CMF C8 H14 O2



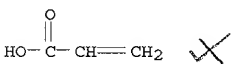
CM 5

CRN 80-62-6
CMF C5 H8 O2



CM 6

CRN 79-10-7
CMF C3 H4 O2



AB The present invention provides a novel (meth)acrylate ester-based resin composition which, for example, exhibits various good properties such as weather resistance, heat resistance, water resistance, acid resistance, alkali resistance, warm water resistance, impact resistance, processability, flexibility, hardness, elongation, transparency, luster, fleshy property, mirroring property, pigment dispersibility, and driability when being used, for example, as crosslinking type paints, adhesives, pressure sensitive adhesives, and fiber-processing materials, and has so low a resin viscosity as to be utilizable as a resin for coping with environmental pollution of such as low-VOC paints. The (meth)acrylate ester-based resin composition comprises a (meth)acrylate ester-based polymer (I) and a crosslinking agent, wherein the (meth)acrylate ester-based polymer is obtained by a process including the step of polymerizing a monomer component including a polymerizable unsaturated monomer (a) as an essential component and has a reactive group wherein the polymerizable unsaturated monomer (a) is an alkylcyclohexylalkyl ester of (meth)acrylic acid, and wherein the crosslinking agent has at least two functional groups that are reactable with the reactive group.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 3 OF 25 USPATFULL

ACCESSION NUMBER:	2002:12623 USPATFULL
TITLE:	Coating composition, method for producing the same, cured product and coating film
INVENTOR(S):	Kanamori, Tarou, Chuo-ku, JAPAN Honda, Miwa, Chuo-ku, JAPAN Kawahara, Kouji, Chuo-ku, JAPAN Hashiguchi, Yuichi, Chuo-ku, JAPAN
PATENT ASSIGNEE(S):	JSR CORPORATION, Tokyo, JAPAN, 104-8410 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002007006	A1	20020117
APPLICATION INFO.:	US 2001-833618	A1	20010413 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-112290	20000413
	JP 2000-112291	20000413

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202
NUMBER OF CLAIMS:	9
EXEMPLARY CLAIM:	1
LINE COUNT:	2457

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

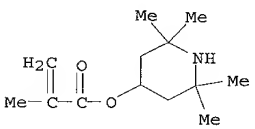
IT **367501-88-0P**, Cyclohexyl methacrylate-2-ethylhexyl acrylate-glycidyl methacrylate-methacryloxypropyltrimethoxysilane-4-methacryloyloxy-2,2,6,6-tetramethylpiperidine-methyl methacrylate copolymer
(coating compn. contg. organosilanes and siloxanes)

RN 367501-88-0 USPATFULL

CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with 2-ethylhexyl 2-propenoate, methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate, 2,2,6,6-tetramethyl-4-piperidinyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

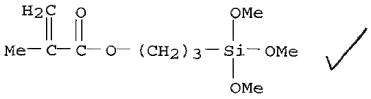
CM 1

CRN 31582-45-3
CMF C13 H23 N O2



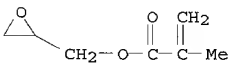
CM 2

CRN 2530-85-0
CMF C10 H20 O5 Si



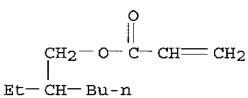
CM 3

CRN 106-91-2
CMF C7 H10 O3



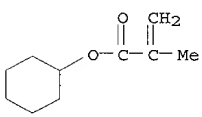
CM 4

CRN 103-11-7
CMF C11 H20 O2



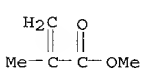
CM 5

CRN 101-43-9
CMF C10 H16 O2



CM 6

CRN 80-62-6
CMF C5 H8 O2



AB A coating composition excellent in dispersion stability of a photocatalyst even in a highly hydrophobic alcohol, excellent in storage

stability, giving a coating layer excellent in durability and adhesion, and having a photocatalytic function, which comprises (a) at least one component selected from the group consisting of an organosilane represented by (R.sup.1).sub.nSi (OR.sup.2).sub.4-n (wherein, R.sup.1 represents a monovalent organic group; R.sup.2 represents an alkyl group or an acyl group; and n is an integer ranging fram 0 to 2), a hydrolyzate and a condensates thereof; (b) an organosiloxane oligomer having an SiO bond and a specific Mw; (c) a photocatalyst: and (d-1) an organic solvent having a surface tension at 20.degree. C. of 260 .mu.N/cm or less.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 4 OF 25 USPATFULL

ACCESSION NUMBER:	2002:95525 USPATFULL
TITLE:	Using block copolymers as supercritical fluid developable **photoresists**
INVENTOR(S):	Ober, Christopher K., Ithaca, NY, United States Wang, Jianguo, Horseheads, NY, United States
PATENT ASSIGNEE(S):	Cornell Research Foundation, Inc., Ithaca, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6379874	B1	20020430	
APPLICATION INFO.:	US 2000-688126		20001016	(9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-161346P	19991026 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Duda, Kathleen
NUMBER OF CLAIMS:	7
EXEMPLARY CLAIM:	1,7
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT:	520

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

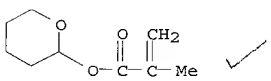
IT **212389-71-4P**
(synthesis of block polymers having pendant hydrolyzing ester for developing neg.-tone photoresist using supercrit. fluid)

RN 212389-71-4 USPATFULL

CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate, block (9CI) (CA INDEX NAME)

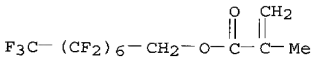
CM 1

CRN 52858-59-0
CMF C9 H14 O3



CM 2

CRN 3934-23-4
CMF C12 H7 F15 O2



AB Block copolymers containing block having pendant fluoro-containing groups and block having pendant hydrolyzable ester containing groups is developed at lower pressures and temperatures than random copolymers of the same monomers. Where the block with ester groups is from polymerization of 2-tetrahydropyranyl methacrylate and the block with pendant fluoro-containing groups is from polymerization of perfluoroalkyl methacrylate or semifluorinated alkyl methacrylate, resolution of sub 0.3 .mu.m features is enabled.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 5 OF 25 USPATFULL DUPLICATE 2

ACCESSION NUMBER:	2001:142042 USPATFULL
TITLE:	Lactone-containing compounds, polymers, **resist** compositions, and patterning method
INVENTOR(S):	Hasegawa, Koji, Nakakubiki-gun, Japan Nishi, Tsunehiro, Nakakubiki-gun, Japan Kinsho, Takeshi, Nakakubiki-gun, Japan Hatakeyama, Jun, Nakakubiki-gun, Japan Watanabe, Osamu, Nakakubiki-gun, Japan
PATENT ASSIGNEE(S):	Shin-Etsu Chemical Co., Ltd., Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6280898	B1	20010828
APPLICATION INFO.:	US 1999-404763		19990924 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1998-270373	19980925

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Baxter, Janet
ASSISTANT EXAMINER:	Ashton, Rosemary
LEGAL REPRESENTATIVE:	Millen, White, Zelano & Branigan, P.C.
NUMBER OF CLAIMS:	21
EXEMPLARY CLAIM:	1
LINE COUNT:	1654

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

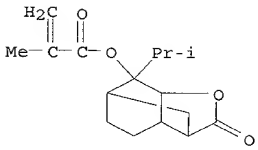
IT **274248-37-2P**
(synthesis of lactone-contg. polymers for resist compns. and method of forming resist pattern using the compn.)

RN 274248-37-2 USPATFULL

CN 2-Propenoic acid, 2-methyl-, octahydro-7-(1-methylethyl)-2-oxo-3,6-methanobenzofuran-7-yl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

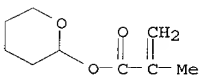
CM 1

CRN 274248-01-0
CMF C16 H22 O4



CM 2

CRN 52858-59-0
CMF C9 H14 O3



AB A novel lactone-containing compound is provided as well as a polymer comprising units of the compound. The polymer is used as a base resin to formulate a **resist** composition having a high sensitivity, resolution and etching resistance. ##STR1##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 2001:320237 CAPLUS
DOCUMENT NUMBER: 134:334293
TITLE: Using block copolymers as supercritical fluid developable **photoresists**
INVENTOR(S): Ober, Christopher K.; Wang, Jianguo
PATENT ASSIGNEE(S): Cornell Research Foundation, Inc., USA
SOURCE: PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001031404	A1	20010503	WO 2000-US26256	20001016
W: CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1141782	A1	20011010	EP 2000-970484	20001016
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6379874	B1	20020430	US 2000-688126	20001016

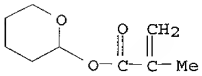
PRIORITY APPLN. INFO.: US 1999-161346P P 19991026
WO 2000-US26256 W 20001016

IT **212389-71-4P**
RL: DEV (Device component use); NUU (Other use, unclassified); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis of block polymers having pendant hydrolyzing ester for developing neg.-tone **photoresist** using supercrit. fluid)
RN 212389-71-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-

pentadecafluorooctyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate, block (9CI) (CA INDEX NAME)

CM 1

CRN 52858-59-0
CMF C9 H14 O3



CM 2

CRN 3934-23-4
CMF C12 H7 F15 O2

AB The invention is directed to generating neg. tone **resist** images in a lithog. process for use, e. g., in the manuf. of microelectronics. The process comprises several steps as follows. Coating a substrate with a film comprising a block polymer comprising (a) a block polymer having pendant fluoro-contg. groups, and (b) block having pendant hydrolyzing ester groups, the vol. percent of block being adequate to provide complete soly. in regions of the film to be removed in the step described later but not so great that sub 0.3.mu.m features cannot be resolved in that step. Hydrolyzing ester to polar function insol. in the supercrit. fluid in the following step to form a pattern defined by supercrit. fluid sol. and supercrit. fluid insol. regions of the film. Developing a neg.-tone **resist** image from the pattern using supercrit. fluid to dissolve the supercrit. fluid sol. regions of the film. Block copolymers contg. block having pendant fluoro-contg. groups and block having pendant hydrolyzable ester contg. groups were developed at low pressure and temp. than random copolymers of the same monomers. Where the block with ester groups is from polymn. of 2-tetrahydropyranyl methacrylate and the block with pendant fluoro-contg. groups is from polymn. of perfluoroalkyl methacrylate or semifluorinated alkyl methacrylate, resoln. of sub 0.3 .mu.m features is enabled.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 4
ACCESSION NUMBER: 2001:115197 CAPLUS
DOCUMENT NUMBER: 134:185945
TITLE: Polymer for **photoresists** and resin compositions for **photoresists**
INVENTOR(S): Funaki, Yoshinori; Tsutsumi, Kiyoharu; Takaragi, Akira; Inoue, Keizo
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 152 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001010916	A1	20010215	WO 2000-JP5168	20000802
W: KR, US				
RW: DE, FR, GB				
JP 2001048931	A2	20010220	JP 1999-223110	19990805
JP 2001048933	A2	20010220	JP 1999-223144	19990805
JP 3330903	B2	20021007		
EP 1172384	A1	20020116	EP 2000-949953	20000802
R: DE, FR, GB				

PRIORITY APPLN. INFO.:

JP 1999-223110	A	19990805
JP 1999-223144	A	19990805
WO 2000-JP5168	W	20000802

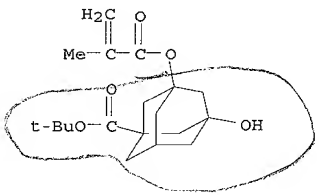
IT **325992-09-4P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymer for **photoresists** and resin compns. for **photoresists**)

RN 325992-09-4 CAPLUS

CN Tricyclo[3.3.1.13,7]decane-1-carboxylic acid, 3-hydroxy-5-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1,1-dimethylethyl ester, polymer with 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

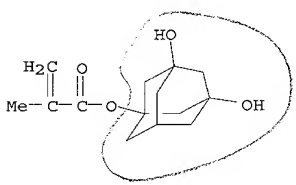
CM 1

CRN 325991-05-7
CMF C19 H28 O5



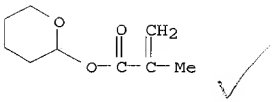
CM 2

CRN 115522-15-1
CMF C14 H20 O4



CM 3

CRN 52858-59-0
CMF C9 H14 O3



GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A polymer comprises at least one kind of monomer units selected from I-IV (R1 = H, Me; R2,3 = H, OH, etc.; R5,6 = H, OH, CO; R7-9 = H, Me; R10,11 = C1-8 hydrocarbon; R12-14 = H, OH, Me), with the proviso that when the polymer comprises monomer units of III. It must also contain at least another kind of monomer units selected from among those represented by general formula V (R15,16 = H, OH, COOH; R17 = OH, CO, COOH) or the like. This polymer is excellent not only in transparency, soly. in alkali and tight adhesion but also in etching resistance, thus being useful as the resin for **photoresists**.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

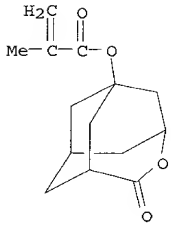
L20 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5
ACCESSION NUMBER: 2001:644598 CAPLUS
DOCUMENT NUMBER: 135:218729
TITLE: Lactone ring-containing polymers and resin compositions for **photoresists**
INVENTOR(S): Gokochi, Toru; Okino, Takeshi; Asakawa, Koji; Shinoda, Naomi; Funaki, Katsunori; Tsutsumi, Kiyoharu; Horai, Akira
PATENT ASSIGNEE(S): Toshiba Corp., Japan; Daicel Chemical Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001240625	A2	20010904	JP 2000-49549	20000225

IT **357340-88-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of lactone ring-contg. polymers for **photoresists**)
RN 357340-88-6 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 5-oxo-4-oxatricyclo[4.3.1.13,8]undec-1-yl 2-methyl-2-propenoate and tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

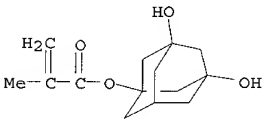
CM 1

CRN 348596-87-2
CMF C14 H18 O4



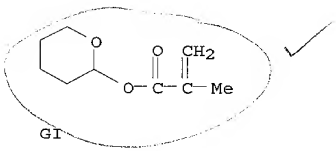
CM 2

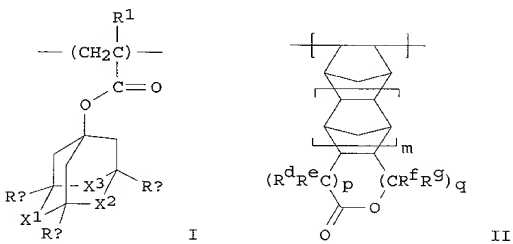
CRN 115522-15-1
CMF C14 H20 O4



CM 3

CRN 52858-59-0
CMF C9 H14 O3





AB **Photoresist** compns. contain polymers contg. monomer units I and/or II (R1, Ra-Rg = H, Me; X1-X3 = CH2, CO2; at least one of X1-X3 is

CO2; m, p, q = 0-2) and photoacid generators. The compns. show good adhesion to substrates such as Si and can precisely form fine patterns in semiconductor manufg.

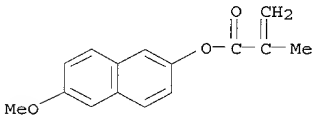
L20 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 6
ACCESSION NUMBER: 2001:595546 CAPLUS
DOCUMENT NUMBER: 135:187707
TITLE: Intermixing-minimized bilayers of deep-UV positive **photoresist** layers and thermally crosslinked **resist** layers
INVENTOR(S): Yasunami, Shoichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001222112	A2	20010817	JP 2000-164833	20000601

PRIORITY APPLN. INFO.: JP 1999-338301 A 19991129
IT **354809-17-9P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(lower **resist** layers; intermixing-minimized bilayers of deep-UV pos. **photoresist** layers and thermally crosslinked **resist** layers)
RN 354809-17-9 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with 6-methoxy-2-naphthalenyl 2-methyl-2-propenoate, PR 54046 and 1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

CM 1

CRN 354809-16-8
CMF C15 H14 O3



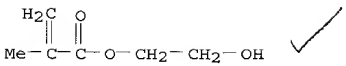
CM 2

CRN 354795-81-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

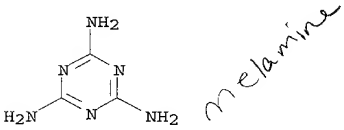
CM 3

CRN 868-77-9
CMF C6 H10 O3

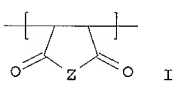


CM 4

CRN 108-78-1
CMF C3 H6 N6



GI



I

AB The bilayers comprise lower **resist** layers contg. polymers with repeating units (a1) [CH2CY1(CO2L1bL2cJ)] [Y1 = H, alkyl, cyano, halo; L1, L2 = bivalent linkages; J = (un)substituted Ph, naphthyl, anthryl, phenanthryl; b, c = 0, 1] and upper **photoresist** layers contg. polymers with repeating units (b1) [CH2CH(CH2)nSiR2R3R4] [R2-4 = (halo)alkyl, halo, alkoxy, trialkylsilyl(oxy); n = 0, 1], (b2) [CH2CY2(LCO2Q)] and/or [CH(COX2L12A2)CH(COX1L11A2)] [Y2 = H, alkyl, cyano, halo; L = single bond, bivalent linkages; Q = acid-labile carboxylic acid precursor groups; X1, X2 = O, S, NH, NHSO2; L11, L12 = single bond, bivalent linkages; A2 = H, cyano, OH, CO2H, CO2R5, CONHR6 [R5, R6 = alkyl(oxy), CO2Q (Q = the same definition as above)]], and optional (b3) I [Z = O, NR7 [R7 = H, OH, alkyl, OSO2R8 (R8 = alkyl, trihalomethyl)]]. The **photoresist** layers possess light- or radiation-sensitive acid generators. The bilayers show high resoln. and generate little development residues.

L20 ANSWER 10 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 7
ACCESSION NUMBER: 2001:423559 CAPLUS
DOCUMENT NUMBER: 135:38894
TITLE: Photosensitive polyimide precursor compositions
INVENTOR(S): Ikeda, Takanobu; Yuba, Tomoyuki; Suzue, Shigeru
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001159818	A2	20010612	JP 1999-343000	19991202

IT **343605-15-2P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material

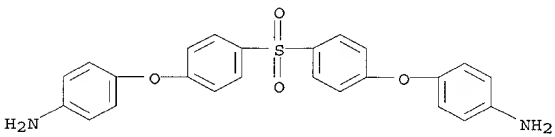
use); PREP (Preparation); USES (Uses)
(photosensitive polyimide precursor compns. with high sensitivity and resoln.)

RN 343605-15-2 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, 5,5'-carbonylbis[1,3-isobenzofurandione], 4,4'-oxybis[benzenamine], 5,5'-oxybis[1,3-isobenzofurandione], 4,4'-[sulfonylbis(4,1-phenyleneoxy)]bis[benzenamine] and 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] (9CI) (CA INDEX NAME)

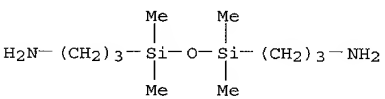
CM 1

CRN 13080-89-2
CMF C24 H20 N2 O4 S



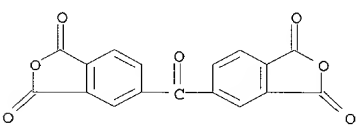
CM 2

CRN 2469-55-8
CMF C10 H28 N2 O Si2



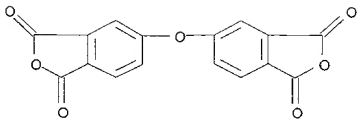
CM 3

CRN 2421-28-5
CMF C17 H6 O7



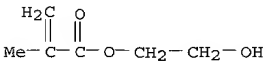
CM 4

CRN 1823-59-2
CMF C16 H6 O7



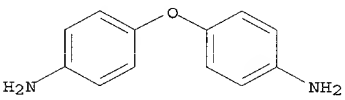
CM 5

CRN 868-77-9
CMF C6 H10 O3



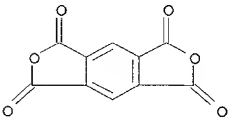
CM 6

CRN 101-80-4
CMF C12 H12 N2 O



CM 7

CRN 89-32-7
CMF C10 H2 O6



AB The compns. contain polymers (no.-av. mol. wt. 10,000-100,000) having structural units [C(:O)R1(CO2R3)nC(:O)NHR2NH]m (I; R1 = C.gtoreq.2 3- or 4-valent org. group; R2 = C.gtoreq.2 divalent org. group; R3 = H, alkali ion, NH4, C1-30 org. group; m = 10,000-100,000; n = 1, 2), (B) 100-200 mol% (for I) R4R5N(CH2)pNHC(:O)CR6:CH2 (R4-R6 = H, C1-10 alkyl; p = 2, 3), and (C) 1-15 wt.% (for A) N-arylglycines. The compns. show high resoln. in gap exposure and high sensitivity and are developable for a short time.

L20 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 8
ACCESSION NUMBER: 2001:347119 CAPLUS
DOCUMENT NUMBER: 134:346475
TITLE: Adamantyl-containing polymer for **photoresist** and polymer composition for **photoresist**
INVENTOR(S): Gokochi, Toru; Okino, Takeshi; Asakawa, Koji; Shinoda, Naomi; Funaki, Katsunori; Tsutsumi, Kiyoharu; Horai,

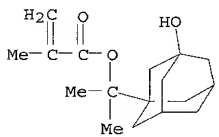
Akira; Inoue, Keizo
PATENT ASSIGNEE(S): Toshiba Corp., Japan; Daicel Chemical Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001131232	A2	20010515	JP 1999-312329	19991102

IT **338790-67-3P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(adamantyl-contg. polymer for etching-resistant **photoresist** for semiconductor device fabrication)
RN 338790-67-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(3-hydroxytricyclo[3.3.1.13,7]dec-1-yl)-1-methylethyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

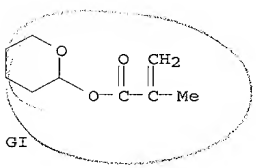
CM 1

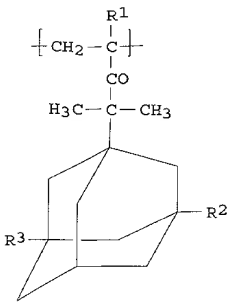
CRN 324761-49-1
CMF C17 H26 O3



CM 2

CRN 52858-59-0
CMF C9 H14 O3





I

AB The polymer is that having .gtoreq.1 adamantyl-substituted monomer unit I (R1 = H, Me; R2, R3 = H, OH). The **photoresist** compn. contains the polymer and a photosensitive acid-generating agent. The **photoresist** compn., showing good etching resistance, is suitable for photolithog. in semiconductor device fabrication.

L20 ANSWER 12 OF 25 USPATFULL

ACCESSION NUMBER:	2001:196771 USPATFULL
TITLE:	Ester compounds, polymers, **resist** compositions and patterning process
INVENTOR(S):	Kinsho, Takeshi, Nakakubiki-gun, Japan Nishi, Tsunehiro, Nakakubiki-gun, Japan Kurihara, Hideshi, Usui-gun, Japan Hasegawa, Koji, Nakakubiki-gun, Japan Watanabe, Takeru, Nakakubiki-gun, Japan Watanabe, Osamu, Nakakubiki-gun, Japan Nakashima, Mutsuo, Nakakubiki-gun, Japan Takeda, Takanobu, Nakakubiki-gun, Japan Hatakeyama, Jun, Nakakubiki-gun, Japan
PATENT ASSIGNEE(S):	Shin-Etsu Chemical Co., Ltd., Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6312867	B1	20011106	
APPLICATION INFO.:	US 1999-431139		19991101	(9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1998-312533	19981102
	JP 1999-75355	19990319

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Ashton, Rosemary E.
LEGAL REPRESENTATIVE:	Millen, White, Zelano & Branigan, P.C.
NUMBER OF CLAIMS:	17
EXEMPLARY CLAIM:	4
LINE COUNT:	2117

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **271779-14-7P**

(ester monomers, polymers, resist compns. and patterning process)

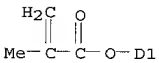
RN 271779-14-7 USPATFULL

CN Cyclohexanecarboxylic acid, [(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with rel-(1R,2S,4S)-2-(1-methylethyl)bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate

and tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

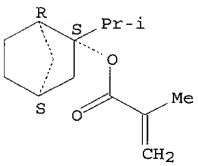
CRN 271779-08-9
CMF C11 H16 O4
CCI IDS
CDES 8:ID



CM 2

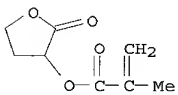
CRN 271598-69-7
CMF C14 H22 O2

Relative stereochemistry.



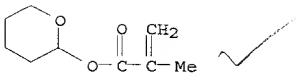
CM 3

CRN 195000-66-9
CMF C8 H10 O4



CM 4

CRN 52858-59-0
CMF C9 H14 O3



AB A novel ester compound having an exo-form 2-alkylbicyclo[2.2.1]heptan-2-yl group as the protective group is provided as well as a polymer comprising units of the ester compound. The polymer is used as a base resin to formulate a **resist** composition having a higher sensitivity, resolution and etching resistance than conventional **resist** compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

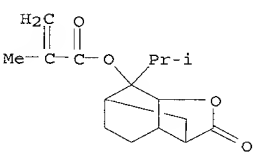
L20 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 9
ACCESSION NUMBER: 2000:387290 CAPLUS
DOCUMENT NUMBER: 133:36088
TITLE: Novel lactone compound, its polymer, **resist** composition containing polymer, and pattern formation
INVENTOR(S): Hasegawa, Koshi; Nishi, Tsunehiro; Kaneo, Takeshi; Hatakeyama, Jun; Watanabe, Osamu
PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000159758	A2	20000613	JP 1999-255167	19990909
KR 2000023368	A	20000425	KR 1999-40854	19990922
TW 442706	B	20010623	TW 1999-88116425	19990923

PRIORITY APPLN. INFO.: JP 1998-270673 A 19980925
IT **274248-37-2P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(radiation-sensitive **resist** compn. contg. acrylic polymer having lactone structure)
RN 274248-37-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, octahydro-7-(1-methylethyl)-2-oxo-3,6-methanobenzofuran-7-yl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

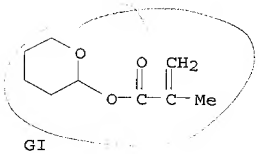
CM 1

CRN 274248-01-0
CMF C16 H22 O4

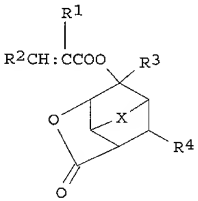


CM 2

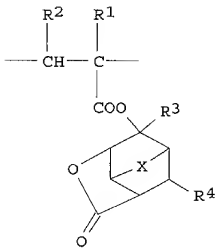
CRN 52858-59-0
CMF C9 H14 O3



GI



I



II

AB The lactone compd. I [R1 = H, Me, CH2CO2R5; R2 = H, Me, CO2R5; R3 = C1-8 (branched) (cyclic) alkyl; R4 = H, CO2R5; R5 = C1-15 (cyclic) (branched) alkyl; X = CH2, CH2CH2, O, S] is claimed. A polymer with wt. av. mol. wt. 1000-500,000 having II (R1-4 and X are the same as in I) as a repeating unit is also claimed. The polymer is prepd. by radical or anionic copolymn. of I with other compd(s). having C:C double bond. The **resist** comprises the polymer and an optional acid generator which generates acid by irradn. and org. solvents. The pattern is formed according to the steps; coating the **resist** compn. on a substrate, irradiating the **resist** with high energy ray or an electron beam through a photomask after heat treatment, optionally post heat-treating, and developing the compn. The **resist** compn. shows high sensitivity, resoln., and etching resistance, and gives fine patterns with good profile.

L20 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 10

ACCESSION NUMBER: 2000:367047 CAPLUS
DOCUMENT NUMBER: 133:18002
TITLE: Ester monomers, polymers, **resist** compositions and patterning process
INVENTOR(S): Kinsho, Takeshi; Nishi, Tsunehiro; Kurihara, Hideshi; Hasegawa, Koji; Watanabe, Takeru; Watanabe, Osamu; Nakashima, Mutsuo; Takeda, Takanobu; Hatakeyama, Jun
PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 65 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1004568	A2	20000531	EP 1999-308687	19991102
EP 1004568	A3	20010228		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000336121	A2	20001205	JP 1999-307148	19991028
KR 2000035130	A	20000626	KR 1999-47904	19991101
US 6312867	B1	20011106	US 1999-431139	19991101

PRIORITY APPLN. INFO.: JP 1998-312533 A 19981102
JP 1999-75355 A 19990319

IT **271779-14-7P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(ester monomers, polymers, **resist** compns. and patterning process)

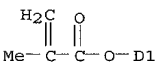
RN 271779-14-7 CAPLUS

CN Cyclohexanecarboxylic acid, [(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with rel-(1R,2S,4S)-2-(1-methylethyl)bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 271779-08-9
CMF C11 H16 O4
CCI IDS

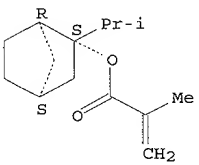
D1—CO_2H



CM 2

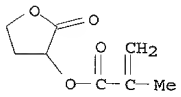
CRN 271598-69-7
CMF C14 H22 O2

Relative stereochemistry.



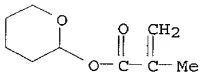
CM 3

CRN 195000-66-9
CMF C8 H10 O4



CM 4

CRN 52858-59-0
CMF C9 H14 O3



AB An ester compd. having an exo-form 2-alkylbicyclo[2.2.1]heptan-2-yl group as the protective group is provided as well as a polymer comprising units of the ester compd. The polymer is used as a base resin to formulate a **resist** compn. having a higher sensitivity, resoln. and etching resistance than conventional **resist** compns. A polymer was prepd. from 8-ethyltricyclo[5.2.1.02,6]decan-8-yl methacrylate and 5-methyl-2-oxooxolan-5-yl methacrylate.

L20 ANSWER 15 OF 25 USPATFULL

ACCESSION NUMBER:	2000:37547 USPATFULL
TITLE:	Radiation sensitive compositions of terpolymers containing organosilicon side chains
INVENTOR(S):	Schaedeli, Ulrich, Plasselb, Switzerland Tinguely, Eric, Fribourg, Switzerland Hofmann, Manfred, Marly, Switzerland Falcigno, Pasquale Alfred, Basel, Switzerland Mertesdorf, Carl-Lorenz, Bad Krozingen, Germany, Federal Republic of
PATENT ASSIGNEE(S):	Olin Microelectronic Chemicals, Inc., Norwalk, CT, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6042989		20000328
APPLICATION INFO.:	US 1998-178827		19981026 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-682171, filed on 16 Jul 1996, now patented, Pat. No. US 5886119		

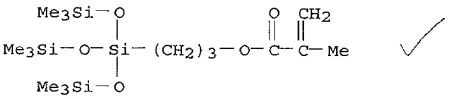
	NUMBER	DATE
PRIORITY INFORMATION:	CH 1995-2292	19950808

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Lipman, Bernard
ASSISTANT EXAMINER:	Egwim, Kelechi
LEGAL REPRESENTATIVE:	Ohlandt, Greeley, Ruggiero & Perle
NUMBER OF CLAIMS:	9
EXEMPLARY CLAIM:	1

LINE COUNT: 631
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **151372-04-2P**
(prepn. and use in pos. photoresists for relief structure prodn.)
RN 151372-04-2 USPATFULL
CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

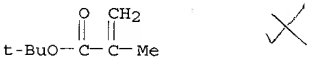
CM 1

CRN 17096-07-0
CMF C16 H38 O5 Si4



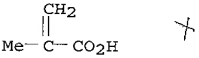
CM 2

CRN 585-07-9
CMF C8 H14 O2



CM 3

CRN 79-41-4
CMF C4 H6 O2



AB A radiation sensitive composition comprising (a) a terpolymer containing 20 to 70 mole percent of an acid-labile repeating unit, 3 to 40 mole percent of an acrylic or acrylonitrile based repeating unit and a repeating unit containing silicon side-chains and (b) a photo-acid generator. The silicon content of terpolymer is 7 to 20 weight percent. The composition is used primarily in the formulation of multilayer positive operating **photoresists**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 16 OF 25 USPATFULL
ACCESSION NUMBER: 2000:21648 USPATFULL
TITLE: Terpolymers containing organosilicon side chains
INVENTOR(S): Schaedeli, Ulrich, Plasselb, Switzerland
Tinguely, Eric, Fribourg, Switzerland
Hofmann, Manfred, Marly, Switzerland
Falcigno, Pasquale Alfred, Basel, Switzerland

PATENT ASSIGNEE(S):	Mertesdorf, Carl-Lorenz, Bad Krozingen, Switzerland Olin Microelectronic Chemicals, Inc., Norwalk, CT, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6028154		20000222
APPLICATION INFO.:	US 1998-178828		19981026 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1996-682171, filed on 16 Jul 1996, now patented, Pat. No. US 5886119		

	NUMBER	DATE
PRIORITY INFORMATION:	CH 1995-952292	19950808

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Lipman, Bernard
ASSISTANT EXAMINER:	Egwim, K. C.
LEGAL REPRESENTATIVE:	Ohlandt, Greeley, Ruggiero & Perle
NUMBER OF CLAIMS:	8
EXEMPLARY CLAIM:	1
LINE COUNT:	625

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

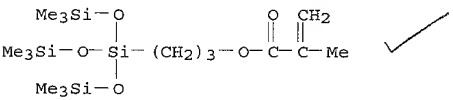
IT **151372-04-2P**
(prepn. and use in pos. photoresists for relief structure prodn.)

RN 151372-04-2 USPATFULL

CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

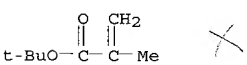
CM 1

CRN 17096-07-0
CMF C16 H38 O5 Si4



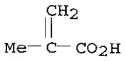
CM 2

CRN 585-07-9
CMF C8 H14 O2



CM 3

CRN 79-41-4
CMF C4 H6 O2



AB A terpolymer containing 20 to 70 mole percent of an acid labile repeating unit, 3 to 40 mole percent of an acrylonitrile based repeating unit and a repeating unit containing silicon side chains. The silicon side chain repeating unit is provided in sufficient amounts so that the terpolymer silicon content is 7 to 20 weight percent. The terpolymer is used primarily in the formulation of multilayer positive operating **photoresists**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

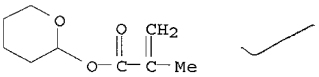
L20 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 11
ACCESSION NUMBER: 1999:800004 CAPLUS
DOCUMENT NUMBER: 132:144329
TITLE: Supercritical CO2 Processing for Submicron Imaging of Fluoropolymers
AUTHOR(S): Sundararajan, Narayan; Yang, Shu; Ogino, Kenji; Valiyaveettil, Suresh; Wang, Jianguo; Zhou, Xinyi; Ober, Christopher K.; Obendorf, Sharon K.; Allen, Robert D.
CORPORATE SOURCE: Department of Materials Science and Engineering, Cornell University, Ithaca, NY, 14853, USA
SOURCE: Chemistry of Materials (2000), 12(1), 41-48
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **212389-71-4P**
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(supercrit. CO2 processing for submicron imaging of fluoropolymers)

RN 212389-71-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate, block (9CI) (CA INDEX NAME)

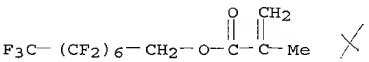
CM 1

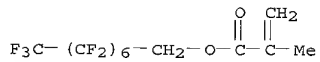
CRN 52858-59-0
CMF C9 H14 O3



CM 2

CRN 3934-23-4
CMF C12 H7 F15 O2





AB To keep pace with the ever-shrinking feature sizes required in the microelectronics industry, suitable developers with high diffusivities, selectivity, and adjustable solvating power are required. Supercrit. fluid (SCF) CO2 possesses many of the above unique properties and could serve as an environmentally responsible alternative developer to aq. base. The high soly. of fluorinated block copolymers in supercrit. CO2 and the selectivity of supercrit. CO2 to both polarity changes and the mol. structure of the polymer were used to develop an environmentally friendly lithog. process. Polymers with acid-cleaving tetrahydropyranyl groups and supercrit. CO2 sol., fluoro-side-chain-contg. methacrylate groups were synthesized with varying vol. fractions of the components, and their solubilities in supercrit. CO2 were characterized. Chem. amplification was used to effect the polarity change leading to the soly. difference in supercrit. CO2, and the lithog. performance was evaluated. Important parameters such as sensitivity, contrast, and resoln. were studied, and 0.2 .mu.m features using supercrit. CO2 development were demonstrated.
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 18 OF 25 USPATFULL
ACCESSION NUMBER: 1999:37231 USPATFULL
TITLE: Terpolymers containing organosilicon side chains
INVENTOR(S): Schaedeli, Ulrich, Plasselb, Switzerland
Tinguely, Eric, Fribourg, Switzerland
Hofmann, Manfred, Marly, Switzerland
Falcigno, Pasquale Alfred, Basel, Switzerland
Mertesdorf, Carl-Lorenz, Bad Krozingen, Germany, Federal Republic of
PATENT ASSIGNEE(S): Olin Microelectronic Chemicals, Inc., Norwalk, CT, United States (U.S. corporation)

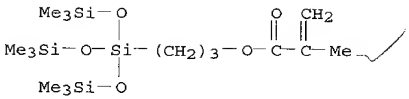
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5886119		19990323	
APPLICATION INFO.:	US 1996-682171		19960716	(8)

	NUMBER	DATE
PRIORITY INFORMATION:	CH 1995-2292	19950808

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Henderson, Christopher
LEGAL REPRESENTATIVE: Ohlandt, Greeley, Ruggiero & Perle
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
LINE COUNT: 628
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **151372-04-2P**
(prepn. and use in pos. photoresists for relief structure prodn.)
RN 151372-04-2 USPATFULL
CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

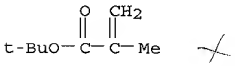
CM 1

CRN 17096-07-0
CMF C16 H38 O5 Si4



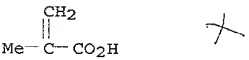
CM 2

CRN 585-07-9
CMF C8 H14 O2



CM 3

CRN 79-41-4
CMF C4 H6 O2



AB A terpolymer containing 20 to 70 mole percent of an acid labile repeating unit, 3 to 40 mole percent of an acrylic acid or acrylonitrile based repeating unit and a repeating unit containing silicon side chains. The silicon side chain repeating unit is provided in sufficient amounts so that the terpolymer silicon content is 7 to 20 weight percent. The terpolymer is used primarily in the formulation of multilayer positive operating **photoresists**.

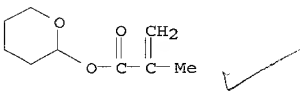
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 12
ACCESSION NUMBER: 1998:486007 CAPLUS
DOCUMENT NUMBER: 129:182001
TITLE: **Resists** using the absorption band shift method for ArF excimer laser lithography
AUTHOR(S): Okino, Takeshi; Asakawa, Koji; Shida, Naomi; Ushirogouchi, Tohru
CORPORATE SOURCE: Materials Devices Res. Labs., Res. Development Cent., Toshiba Corp., Kawasaki, 210-8582, Japan
SOURCE: Journal of Photopolymer Science and Technology (1998), 11(3), 489-492
CODEN: JSTEEW; ISSN: 0914-9244
PUBLISHER: Technical Association of Photopolymers, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **211374-08-2**, 2-Vinylnaphthalene-menthyl acrylate-tetrahydropyranyl methacrylate-methacrylic acid copolymer
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(**resists** using absorption band shift method for ArF excimer laser lithog.)
RN 211374-08-2 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2-ethenylnaphthalene, (1R,2S,5R)-5-methyl-2-(1-methylethyl)cyclohexyl 2-propenoate and tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

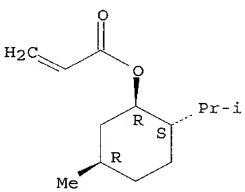
CRN 52858-59-0
CMF C9 H14 O3



CM 2

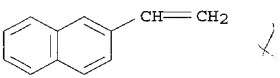
CRN 4835-96-5
CMF C13 H22 O2

Absolute stereochemistry. Rotation (-).



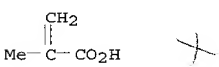
CM 3

CRN 827-54-3
CMF C12 H10



CM 4

CRN 79-41-4
CMF C4 H6 O2



AB A thin film **resist** contg. naphthalene is suitable for ArF excimer laser lithog. Thin films are advantageous in terms of transparency. Naphthalene structure has good dry etch resistance, and,

moreover, di-tert-butyl-2-(1-adamantylcarbonylmethyl)malonate (ADTB) improves it. The VN25/ADTB-30 **resist** was exposed to ArF excimer laser and 0.13 .mu.m lines/spaces pattern was successfully fabricated at an exposure dose of 20.8 mJ/cm2.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 13

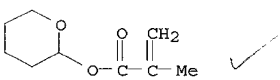
ACCESSION NUMBER: 1998:546254 CAPLUS
DOCUMENT NUMBER: 129:223147
TITLE: Block copolymers as supercritical CO2 developable **photoresists**
AUTHOR(S): Sundararajan, Narayan; Valiyaveettil, Suresh; Ogino, Kenji; Zhou, Xinyi; Wang, Jianguo; Yang, Shu; Ober, Christopher K.
CORPORATE SOURCE: Dep. Mater. Sci. Eng., Cornell Univ., Ithaca, NY, 14853, USA
SOURCE: Polymeric Materials Science and Engineering (1998), 79, 130-131
CODEN: PMSEDG; ISSN: 0743-0515
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

IT **212389-71-4**
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(block copolymers as supercrit. CO2 developable **photoresists**)

RN 212389-71-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate, block (9CI) (CA INDEX NAME)

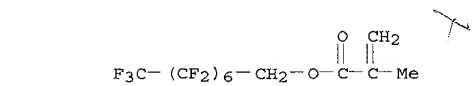
CM 1

CRN 52858-59-0
CMF C9 H14 O3



CM 2

CRN 3934-23-4
CMF C12 H7 F15 O2



AB The objective of this study was to utilize the concept of block copolymers and their unique properties to provide an environmentally friendly process for the fabrication of sub-0.3 .mu.m features using supercrit. carbon dioxide development. Block copolymers such as tetrahydropyranyl methacrylate-heptafluoropropylmethyl methacrylate (THPMA-F3MA) and tetrahydropyranyl methacrylate-pentadecafluoroheptylmethyl methacrylate (THPMA-F7MA) with different vol. and molar ratio were synthesized by group transfer polymn. THPMA was introduced first, initiated by

1-methoxy1-trimethylsiloxy-2-methyl-1-propene (MTMS) with tetrabutylammonium biacetate (TBAB) as a catalyst in THF. F3MA or F7MA was then added as second block and then, polymd. The optimum conditions for dissoln. of the virgin polymer before exposure were detd. by evaluating the dissoln. characteristics of the polymer at different pressure, temp., flow rate of CO2 and time of development. After exposure, the proton generated from the photoacid generator cleaves the acid-labile group in the THPMA component block copolymer and converts it into methacrylic acid. This gives rise to a polarity change which then makes the polymer insol. in supercrit. CO2 after exposure. A plot of film thickness after development vs. exposure dose gives an understanding of the sensitivity of the **photoresist**.

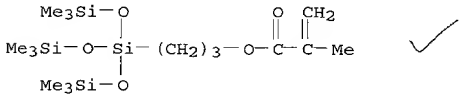
L20 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 14
ACCESSION NUMBER: 1997:230991 CAPLUS
DOCUMENT NUMBER: 126:218581
TITLE: Terpolymer containing organosilicon side chain for production of relief structure
INVENTOR(S): Schaedeli, Ulrich; Tinguely, Eric; Hofmann, Manfred; Falcigno, Pasquale Alfred; Mertesdorf, Carl-Lorenz
PATENT ASSIGNEE(S): Olin Microelectronic Chemicals, Inc., USA
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 758102	A1	19970212	EP 1996-305465	19960725
EP 758102	B1	19991208		
R: BE, CH, DE, FR, GB, IT, LI, NL				
US 5886119	A	19990323	US 1996-682171	19960716
JP 09110938	A2	19970428	JP 1996-208028	19960807
US 6028154	A	20000222	US 1998-178828	19981026
US 6042989	A	20000328	US 1998-178827	19981026
PRIORITY APPLN. INFO.:			CH 1995-2292	19950808
			US 1996-682171	19960716

IT **151372-04-2P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and use in pos. **photoresists** for relief structure prodn.)
RN 151372-04-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

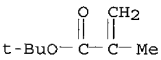
CM 1

CRN 17096-07-0
CMF C16 H38 O5 Si4



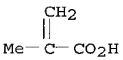
CM 2

CRN 585-07-9
CMF C8 H14 O2



CM 3

CRN 79-41-4
CMF C4 H6 O2

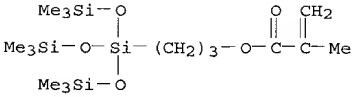


AB A terpolymer contg. 20-70 mol% of repeating structural units of formula -[CH2CR1(AR2)]- and 3-40 mol% of repeating structural units of formula -(CH2CR1R3)- as well as -(CH2CR1R4)- whereby A indicates a direct single bond or CO, R1 indicates a hydrogen atom or a Me group, R2 indicates a 2-furanyloxy or 2-pyranyloxy group or a group of the formula OCR5R6R7 or OC(R5)(R6)OR6, R3 indicates a COOH or CN group, R4 indicates a group selected from the groups of formulas (CH2)pSi(Z)m(Y)n, O(CH2)pSi(Z)m(Y)n, and CO2(CH2)pSi(Z)m(Y)n, R5-7 indicate a C1-6 alkyl group or a Ph group, Y indicates a hydrogen or chlorine atom or a Me group, Z indicates a group of the formula OSi(CH3)3, m indicates 1, 2, or 3, n indicates 3-m, and p indicates 0, 1, 2, or 3 and whereby as many structural units of formula -(CH2CR1R4)- are contained in the terpolymer that its silicon content amts. to 7-20 wt.% and whose use for the prodn. of pos. **photoresists**, particularly for the multilayer technique, is described.

L20 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 15
ACCESSION NUMBER: 1996:444772 CAPLUS
DOCUMENT NUMBER: 125:234230
TITLE: Evaluation of materials for 193-nm lithography
AUTHOR(S): Schaedeli, Ulrich; Tinguely, Eric; Cherubini, Katiuscia; Maire, Beatrice; Blakeney, Andrew J.; Falcigno, Pasquale; Kunz, Roderick R.
CORPORATE SOURCE: Marly Res. Center, Ciba-Geigy Ltd, East Providence, RI, 02914, USA
SOURCE: Journal of Photopolymer Science and Technology (1996), 9(3), 435-446
CODEN: JSTEEW; ISSN: 0914-9244
PUBLISHER: Technical Association of Photopolymers, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **151372-04-2**
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. tone bilayer **resist** system with silicon contg. methacrylate polymers for 193-nm lithog.)
RN 151372-04-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

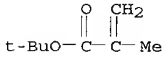
CM 1

CRN 17096-07-0
CMF C16 H38 O5 Si4



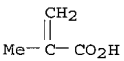
CM 2

CRN 585-07-9
CMF C8 H14 O2



CM 3

CRN 79-41-4
CMF C4 H6 O2



AB The explosive growth in performance of microelectronic devices has been made possible by steady advances in microlithog. and **photoresist** technologies. Tremendous efforts to extend optical lithog. beyond the 0.25 .mu.m boundary, as currently obtainable with KrF-excimer lithog., are ongoing. Although some similarities exist between the imaging chemistries involved in the 248 nm and 193 nm lithogs., different materials are needed due to the distinct difference in optical absorbance requirements. **Resist** systems which can be developed with aq. base would be preferred. However, it might well turn out that the targeted requirements can only be fulfilled by **resist** systems which involve some type of dry etch steps. This paper will focus on a pos. tone **resist** system, which is based on novel silicon contg. methacrylate polymers. Due to a unique combination of monomeric building blocks, polymers with high silicon concns. and, at the same time, high thermal stability are obtained.

L20 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 16
ACCESSION NUMBER: 1997:180359 CAPLUS
DOCUMENT NUMBER: 126:285197
TITLE: Bilayer **resist** approach for 193-nm lithography
AUTHOR(S): Schaedeli, Ulrich; Tinguely, Eric; Blakeney, Andrew J.; Falcigno, Pasquale; Kunz, Roderick R.
CORPORATE SOURCE: Ciba-Geigy Ltd, Marly Research Center, Marly, 1723, Switz.
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1996), 2724(Advances in Resist

Technology and Processing XIII), 344-354
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

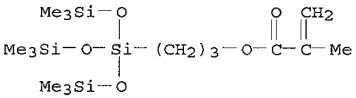
IT **151372-04-2**
RL: TEM (Technical or engineered material use); USES (Uses)
(silicon-contg. methacrylate **photoresists**)

RN 151372-04-2 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

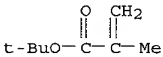
CM 1

CRN 17096-07-0
CMF C16 H38 O5 Si4



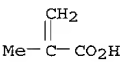
CM 2

CRN 585-07-9
CMF C8 H14 O2



CM 3

CRN 79-41-4
CMF C4 H6 O2



AB Tremendous efforts to extend optical lithog. beyond the quarter micrometer boundary, which is currently achievable with KrF-excimer laser lithog., are ongoing. 193 Nm lithog., using ArF-excimer lasers, is believed to be the technol. of choice to approach the ambitious sub-0.2 .mu.m resoln. target. Single layer, pos. tone **resist** systems, which can be developed with aq. base, would be preferred. However, it might well turn out that the targeted requirements can only be fulfilled by **resist** systems which involve some type of dry etch steps. This paper will focus on a pos. tone bilayer **resist** system, which is based on novel silicon contg. methacrylate polymers bearing acid labile side groups. Due to a unique combination of monomeric building blocks, polymers with high silicon concns. and, at the same time, high thermal flow stability are obtained. Hardbaked novolac is used as the planarizing layer.

Resists systems based on the new silicon contg. polymers demonstrated 0.175 .mu.m resoln. capability, a thermal flow stability >120.degree.C, and an etch selectivity ratio >20.

L20 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 17
ACCESSION NUMBER: 1996:137662 CAPLUS
DOCUMENT NUMBER: 124:189529
TITLE: Positive working **photoresist**
INVENTOR(S): Tang, Qian; Roth, Martin
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

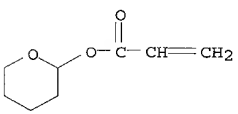
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 689098	A1	19951227	EP 1995-810395	19950613
EP 689098	B1	20000816		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL				
AT 195590	E	20000915	AT 1995-810395	19950613
CA 2152236	AA	19951223	CA 1995-2152236	19950620
CN 1121190	A	19960424	CN 1995-107005	19950621
CN 1075638	B	20011128		
JP 08050356	A2	19960220	JP 1995-179554	19950622

PRIORITY APPLN. INFO.: CH 1994-1992 A 19940622
CH 1995-138 A 19950118

IT **174081-26-6**
RL: DEV (Device component use); USES (Uses)
(acid-labile alpha-alkoxyalkyl ester polymer)
RN 174081-26-6 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with methyl 2-methyl-2-propenoate and tetrahydro-2H-pyran-2-yl 2-propenoate (9CI) (CA INDEX NAME)

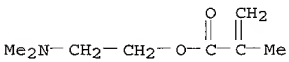
CM 1

CRN 52858-57-8
CMF C8 H12 O3



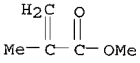
CM 2

CRN 2867-47-2
CMF C8 H15 N O2



CM 3

CRN 80-62-6
CMF C5 H8 O2



AB An aq. alkali-sol. pos. **photoresist** compn. comprises: (a) .gtoreq.1 homo- or copolymer contg. an acid labile .alpha.-alkoxyalkyl ester group; (b) .gtoreq.1 carboxylic acid group-contg. copolymer where the content of carboxylic acid group is 0.4-5.5 mol/kg; (c) .gtoreq.1 photoacid generator; and (d) an org. solvent. The components of the compn. has high storage stability and the compn. has high photosensitivity and the material can be used for producing etching resistance images.

L20 ANSWER 25 OF 25 USPATFULL

ACCESSION NUMBER:	94:106845 USPATFULL
TITLE:	Silicone-containing acrylic star polymers, block copolymers and macromonomers
INVENTOR(S):	Spinelli, Harry J., Wilington, DE, United States Anton, Waifong L., Claymont, DE, United States Coleman, Henry D., Brooklyn, NY, United States
PATENT ASSIGNEE(S):	Permeable Technologies, Inc., Morganville, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5371147		19941206
APPLICATION INFO.:	US 1993-107025		19930816 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1991-773715, filed on 9 Oct 1991, now abandoned which is a continuation-in-part of Ser. No. US 1990-595919, filed on 11 Oct 1990, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Dean, Ralph H.		
LEGAL REPRESENTATIVE:	Coleman, Henry D., Sudol, R. Neil		
NUMBER OF CLAIMS:	31		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	2456		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

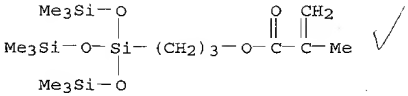
IT **143736-95-2P**
(prepn. of, for contact lenses)

RN 143736-95-2 USPATFULL

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 1-ethenyl-2-pyrrolidinone, 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

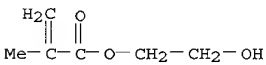
CM 1

CRN 17096-07-0
CMF C16 H38 O5 Si4



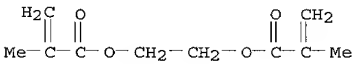
CM 2

CRN 868-77-9
CMF C6 H10 O3



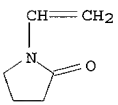
CM 3

CRN 97-90-5
CMF C10 H14 O4



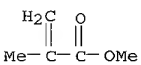
CM 4

CRN 88-12-0
CMF C6 H9 N O



CM 5

CRN 80-62-6
CMF C5 H8 O2



AB The present invention relates to novel preformed silicone-containing acrylic copolymers including silicone-containing acrylic star polymers, graft copolymers and macromonomers. Described are linear diblock macromomomers, graft copolymers and star polymers comprising a substantially hydrophilic block or block and a substantially hydrophobic, permeable block or block, said hydrophilic block preferably comprising at least about 25% by weight of a hydrophilic acrylic-type

monomer and said hydrophobic, permeable block comprising at least about 50% by weight of at least one or more polysiloxanylalkylesters of an alpha, beta unsaturated acid.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L28 ANSWER 1 OF 5 USPATFULL

ACCESSION NUMBER:	2002:113071 USPATFULL
TITLE:	Synthesis of epothilones, intermediates thereto and analogues thereof
INVENTOR(S):	Danishefsky, Samuel J., Englewood, NJ, UNITED STATES Stachel, Shawn J., Perkasie, PA, UNITED STATES Lee, Chul Bom, Princeton, NJ, UNITED STATES Chappell, Mark D., Noblesville, IN, UNITED STATES Wu, Zhicai, New York, NY, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002058817	A1	20020516
APPLICATION INFO.:	US 2001-796959	A1	20010301 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-185968P	20000301 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Choate, Hall & Stewart, Exchange Place, 53 State Street, Boston, MA, 02109
NUMBER OF CLAIMS:	5
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	47 Drawing Page(s)
LINE COUNT:	5609

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

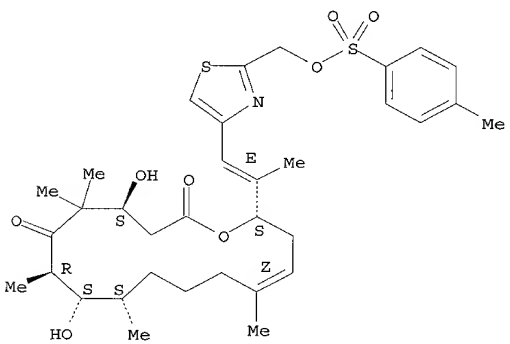
IT **359014-45-2P**

(synthesis of epothilones, intermediates and analogs for use in treatment of cancers with multidrug resistant phenotype)

RN 359014-45-2 USPATFULL

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,5,7,9,13-pentamethyl-16-[(1E)-1-methyl-2-[2-[[[(4-methylphenyl)sulfonyl]oxy]methyl]-4-thiazolyl]ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



AB The present invention provides convergent processes for preparing epothilones, desoxyepothilones, and analogues thereof. The present invention further provides novel compositions and methods for the treatment of cancer and additionally provides methods for the treatment of cancer which has developed a multi-drug phenotype.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L28 ANSWER 2 OF 5 USPATFULL

ACCESSION NUMBER:	2002:112551 USPATFULL
TITLE:	Synthesis of epothilones, intermediates thereto and analogues thereof
INVENTOR(S):	Danishefsky, Samuel J., Englewood, NJ, UNITED STATES Stachel, Shawn J., Perkasi, PA, UNITED STATES Lee, Chul Bom, Princeton, NJ, UNITED STATES Chappell, Mark D., Noblesville, IN, UNITED STATES Chou, Ting-Chao, Paramus, NJ, UNITED STATES Wu, Zhicai, New York, NY, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002058286	A1	20020516
APPLICATION INFO.:	US 2001-797027	A1	20010301 (9)

RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1999-257072, filed on 24 Feb 1999, UNKNOWN
DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Choate, Hall & Stewart, Exchange Place, 53 State Street, Boston, MA, 02109
NUMBER OF CLAIMS:	61
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	47 Drawing Page(s)
LINE COUNT:	6056

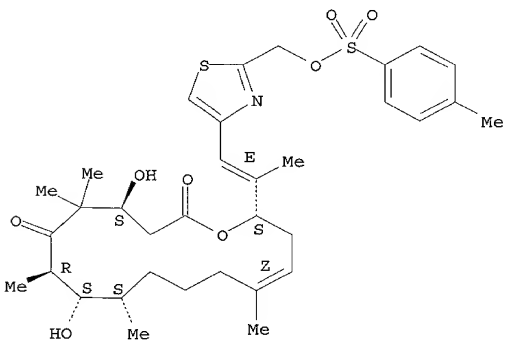
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **359014-45-2P**
(prepn. of epothilones, intermediates and analogs for use in treatment of cancers with multidrug resistant phenotype)

RN 359014-45-2 USPATFULL

CN Oxacyclohexadec-13-ene-2,6-dione, 4,8-dihydroxy-5,5,7,9,13-pentamethyl-16-[(1E)-1-methyl-2-[2-[[[(4-methylphenyl)sulfonyl]oxy]methyl]-4-thiazolyl]ethenyl]-, (4S,7R,8S,9S,13Z,16S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



AB The present invention provides convergent processes for preparing epothilones, desoxyepothilones, and analogues thereof. The present invention further provides novel compositions and methods for the treatment of cancer and additionally provides methods for the treatment

of cancer which has developed a multi-drug phenotype.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L28 ANSWER 3 OF 5 USPATFULL

ACCESSION NUMBER:	2000:61550 USPATFULL
TITLE:	Etylene derivatives and pesticides containing said derivatives
INVENTOR(S):	Ogura, Tomoyuki, Funabashi, Japan Murakami, Hiroshi, Funabashi, Japan Numata, Akira, Funabashi, Japan Miyachi, Rika, Funabashi, Japan Miyake, Toshiro, Minamisaitama, Japan Mimori, Norihiko, Minamisaitama, Japan Takii, Shinji, Minamisaitama, Japan
PATENT ASSIGNEE(S):	Nissan Chemical Industries, Ltd., Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6063734		20000516
APPLICATION INFO.:	US 1998-177501		19981023 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 1997-JP1449, filed on 24 Apr 1997		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1996-104878	19960425
	JP 1996-145802	19960607
	JP 1996-159346	19960620
	JP 1997-28916	19970213

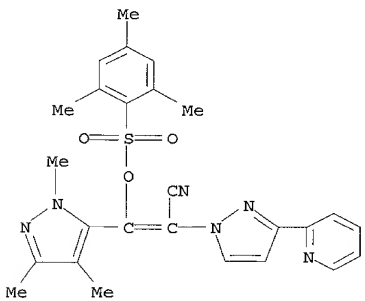
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Gerstl, R.
LEGAL REPRESENTATIVE:	Oliff & Berridge, PLC
NUMBER OF CLAIMS:	36
EXEMPLARY CLAIM:	1
LINE COUNT:	9378

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

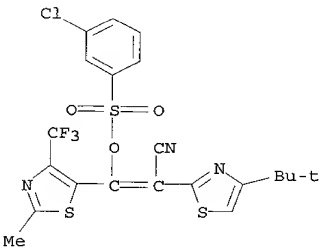
IT **262449-11-6P 268744-08-7P**
(prepn. as pesticide)

RN 262449-11-6 USPATFULL

CN Benzenesulfonic acid, 2,4,6-trimethyl-, 2-cyano-2-[3-(2-pyridinyl)-1H-pyrazol-1-yl]-1-(1,3,4-trimethyl-1H-pyrazol-5-yl)ethenyl ester (9CI) (CA INDEX NAME)



RN 268744-08-7 USPATFULL
CN Benzenesulfonic acid, 3-chloro-, 2-cyano-2-[4-(1,1-dimethylethyl)-2-thiazolyl]-1-[2-methyl-4-(trifluoromethyl)-5-thiazolyl]ethenyl ester (9CI) (CA INDEX NAME)



AB Ethylene derivatives of formula (I): ##STR1## where Q is an unsubstituted or substituted phenyl or heterocyclic group, especially a 4-thiazolyl, 1- or 3-pyrazolyl, 1,3-oxazol-4-yl, phenyl or pyridyl group; E is a substituent such as a cyano group; A is a substituent such as a 4-pyrazolyl or thiazolyl group; and B is a substituent such as an alkylcarbonyl group. Agricultural chemicals and agents for preventing the attachment of aquatic organisms containing one or more such ethylene derivatives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

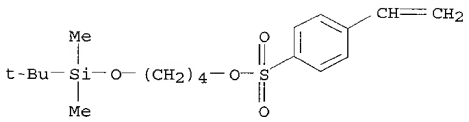
L28 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:869525 CAPLUS
DOCUMENT NUMBER: 134:49232
TITLE: Image-forming medium containing **acid** generator and dye forming compound and image forming method
INVENTOR(S): Okawa, Atsuhiro; Sakurai, Seiya
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000343828	A2	20001212	JP 2000-67319	20000310

PRIORITY APPLN. INFO.: JP 1999-93088 A 19990331
OTHER SOURCE(S): MARPAT 134:49232
IT **312729-59-2**
RL: DEV (Device component use); USES (Uses)
(**thermal** printing material contg. **acid** generator and dye-forming compd.)
RN 312729-59-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-[(octyloxy)methoxy]phenyl]ethyl ester, polymer with 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]butyl 4-ethenylbenzenesulfonate (9CI) (CA INDEX NAME)

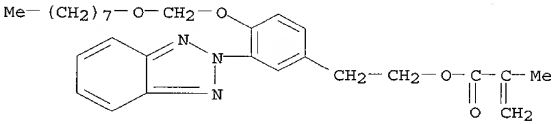
CM 1

CRN 312729-57-0
CMF C18 H30 O4 S Si



CM 2

CRN 268747-64-4
CMF C27 H35 N3 O4



AB The title process uses an image-forming medium contg. a compd. which releases a strong **acid** by heating and another compd. which reacts with **acids** to form a dye, in which images are formed by using a **thermal** printing head. An image-forming medium used in the process is also claimed. The medium shows high **thermal** sensitivity, processability under roomlight, and anti-sticking properties and provides high d. images.

L28 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:869525 HCAPLUS
DOCUMENT NUMBER: 134:49232
TITLE: Image-forming medium containing **acid** generator and dye forming compound and image forming method
INVENTOR(S): Okawa, Atsuhiro; Sakurai, Seiya
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

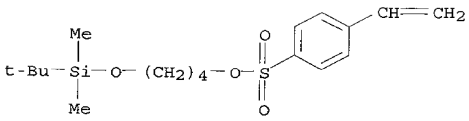
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000343828	A2	20001212	JP 2000-67319	20000310

PRIORITY APPLN. INFO.: JP 1999-93088 A 19990331
OTHER SOURCE(S): MARPAT 134:49232
IT **312729-59-2**
RL: DEV (Device component use); USES (Uses)
(**thermal** printing material contg. **acid** generator and dye-forming compd.)
RN 312729-59-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-[(octyloxy)methoxy]phenyl]ethyl ester, polymer with 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]butyl 4-ethenylbenzenesulfonate (9CI) (CA

INDEX NAME)

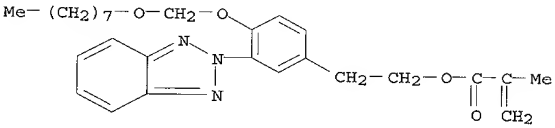
CM 1

CRN 312729-57-0
CMF C18 H30 O4 S Si



CM 2

CRN 268747-64-4
CMF C27 H35 N3 O4



AB The title process uses an image-forming medium contg. a compd. which releases a strong **acid** by heating and another compd. which reacts with **acids** to form a dye, in which images are formed by using a **thermal** printing head. An image-forming medium used in the process is also claimed. The medium shows high **thermal** sensitivity, processability under roomlight, and anti-sticking properties and provides high d. images.